

Claims

1. A mobile communication terminal for supporting a network mobile game by using electronic compass function,
5 the mobile game being a game electronically performed by or at a mobile communication terminal, comprising:

a program memory unit storing a compiler for performing compilation to execute the mobile game and a wireless Internet browser for gaining access to a wireless
10 Internet;

a parameter storage unit for storing therein various parameters for use in performing a data communication;

a subscriber identity module (SIM) for storing therein a mobile identification number (MIN), an electric serial number (ESN), a personal security key and various data required to operate the mobile communication terminal;
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a key input unit including at least one key button for inputting commands for selecting, starting, playing and stopping the mobile game;

20 an electronic compass module incorporating a magnetic sensor for outputting a sensor output signal proportional to magnitude of the external geomagnetic field which varies with an upward, a downward, a leftward and a rightward motion of the mobile communication terminal, for outputting a horizontal or a vertical rotation angle value;
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a microprocessor for controlling the mobile game based

on the key values inputted from the key input unit, wherein
the microprocessor is controlled to transmit the horizontal
or the vertical rotation angle value received from the
electronic compass module while conducting the mobile game
5 to a specific wireless Internet game server via the wireless
Internet as a data value for controlling movement of a user-
controlled character; and

a liquid crystal display (LCD) unit for displaying the
mobile game under the control of the microprocessor.

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2. The mobile communication terminal of claim 1, wherein
the parameter storage unit stores therein parameters to be
used in synchronous, asynchronous and fourth-generation
communication systems defined by 3GPP (3rd generation
15 partnership project), 3GPP2, ITU (international
communication union), OHG (operator harmonization group).

3. The mobile communication terminal of claim 1, wherein
the wireless Internet browser is at least one of a WAP
20 (wireless application protocol) browser coded in WML
(wireless markup language), a Mobile Explorer coded in m-
HTML (Microsoft-HTML) and a Compact Netfront coded in c-HTML
(Compact-HTML).

25 4. The mobile communication terminal of claim 1, wherein,
if a network mobile game is selected from the key input unit,

the mobile communication terminal drives the wireless Internet browser to gain access to the wireless Internet game server via the wireless Internet and executes the network mobile game.

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5. The mobile communication terminal of claim 1, wherein the electronic compass module includes:

an X-axis magnetic sensor and a Y-axis magnetic sensor for generating an X-axis magnetic senor output signal and a Y-axis magnetic sensor output signal depending on variations in an X-axis and a Y-axis component of the external geomagnetic field, respectively;

an analog/digital converter (ADC) for receiving the X-axis and/or the Y-axis magnetic sensor signal and converting received signal into a digital signal; and

a compensation processor for receiving the digital signal from the ADC, determining whether or not a compensation of the digital signal is required, performing the compensation of the digital signal if the compensation is determined to be required, and transferring compensated digital signal to the microprocessor.

6. The mobile communication terminal of claim 5, wherein the electronic compass module further includes a constant DC voltage circuit for supplying a constant DC voltage to the X-axis magnetic sensor and the Y-axis magnetic sensor.

7. The mobile communication terminal of claim 5, wherein
the compensation processor incorporates therein a
compensation algorithm for use in performing the
5 compensation.

8. The mobile communication terminal of claim 5, wherein
the compensation processor determines that the compensation
is required when the received digital signal has a negative
10 value or a value of more than or equal to 360°.

9. The mobile communication terminal of claim 5, wherein
the compensation processor determines that the compensation
is required when the received digital signal has a value
15 greater than a predetermined threshold value.

10. The mobile communication terminal of claim 1, wherein
the user-controlled character is rotated leftward and/or
rightward about a point on a vertical axis of the user-
20 controlled character in response to the movement of the
mobile communication terminal.

11. The mobile communication terminal of claim 1, wherein
the user-controlled character is rotated upward and/or
25 downward about a point on a horizontal axis of the user-
controlled character in response to the movement of the

mobile communication terminal.

12. The mobile communication terminal of claim 1, wherein
the electronic compass module is embedded in a body portion
5 of the mobile communication terminal in an equilibrium state
with the body of the mobile communication terminal.

13. The mobile communication terminal of claim 1, further
comprising a speaker for outputting a sound created in the
10 mobile game under play.

14. The mobile communication terminal of claim 1, wherein
the mobile communication terminal is selected a group
including a PDA (personal digital assistant), a cellular
15 phone, a hand-held PC, a GSM (global system for mobile)
phone, a W-CDMA (wideband CDMA) phone, a CDMA-2000 phone and
an MBS (mobile broadband system) phone.

15. A method for providing a network mobile game service
20 by using a mobile communication terminal incorporating an
electronic compass module therein in a wireless Internet
game system, the mobile game being a game electronically
performed by or at a mobile communication terminal,
comprising the steps of:

25 (a) providing a mobile game list to the mobile
communication terminal connected through a wireless

Internet;

(b) presenting a network mobile game selected by the mobile communication terminal and a game mode supported by the selected network mobile game;

5 (c) providing a game mode selection screen, if the selected network mobile game is determined to be a dual mode game;

10 (d) executing the selected network mobile game and waiting for control data to be received, if an electronic compass mode is selected on the mobile communication terminal;

(e) controlling a movement of a user-controlled character based on the received control data; and

15 (f) transmitting to the mobile communication terminal a game screen on which the user-controlled character is moved.

16. The method of claim 15, wherein, in step (a), the mobile game list includes at least one network mobile game
20 that is executable through an access to a wireless Internet game server via the wireless Internet.

17. The method of claim 15, wherein, in step (c), the dual mode game refers to a mobile game which supports both a key matrix mode in which the movement of the user-controlled character is controlled by using at least one key button
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provided on a key matrix and the electronic compass module in which the movement of the user-controlled character is controlled by using the incorporated electronic compass module.

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18. The method of claim 17, wherein, if the selected network mobile game supports the key matrix mode or the electronic compass mode, in step (d), the selected mobile game is executed and the control data to be received is waited for.

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19. The method of claim 15, wherein, in step (c), the game mode selection screen refers to a screen capable of selecting one of the key matrix mode and the electronic compass mode.

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20. The method of claim 15, wherein, in step (d), the control data contains a horizontal rotation angle value and/or a vertical rotation angle value transmitted from the mobile communication terminal.

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21. The method of claim 20, wherein the control data is data which is used to control an upward, a downward, a leftward or a rightward movement of the user-controlled character in the mobile game under execution based on the received horizontal and/or the received vertical rotation

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angle value.

22. The method of claim 15, wherein the network mobile game refers to a game for allowing the user-controlled character to be selectively moved along at least one direction selected from an upward, a downward, a leftward and a rightward direction.

23. The method of claim 22, wherein the network mobile game includes a game for providing a match mode between a user and a computer endowed with an artificial intelligence classified by at least one level and a match mode between two users or more.